

REMARKS

By way of this Amendment that Accompanies a CPA Request, in which Applicant now elects Group 1 for examination on the merits (Group 1 was defined in an Office Action mailed May 16, 2002), claims 1 and 3-16 are now presently pending for consideration, whereby claim 1 has been amended, claim 2 has been canceled, and new claim 16 has been added. Please note that the features of now-canceled claim 2 have been incorporated into presently pending claim 1, and thus all of the presently pending claims 1 and 3-16 correspond to claims of Group 1.

— Prior to this CPA Request, the claims of Group II were being prosecuted in this application, and those claims were rejected over the teachings of Kubo as made in an Office Action dated August 16, 2002.

— According to the present invention as recited in claim 1, the data signal and the tracking error signal by the differential phase method are detected from the first group of light.

By contrast, according to the teachings of Kubo, the data signal and the error signal by are detected from the different light.

In order to detect the data signal and the tracking error signal by a differential phase method, a large optical signal strength is required because the high-frequency signal is detected with high S/N.

According to the present invention, the data signal and the tracking error signal by the differential phase method can be detected from the first group of light having a larger optical signal strength.

On the other hand, according to Kubo, with respect to light for detecting the data signal and light for detecting the error signal, if the optical signal strength of one light is increased, the optical signal strength of the other light is inevitably decreased.

Therefore, for at least the reasons stated above, presently pending claim 1, as well as dependent claims 3-15, are patentable over the teachings of Kubo.

New claim 16 recites the invention as a method of steps, and this claim is also believed to be patentable over the teachings of Kubo.

Applicant believes that the present application is now in condition for allowance, and an early indication of allowance is requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

December 16, 2002  
Date

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MARKED UP VERSION SHOWING CHANGES MADEMarked-Up Title:

[OPTICAL HEAD APPARATUS] OPTICAL SYSTEM FOR DETECTING DATA  
SIGNAL AND TRACKING ERROR SIGNAL

Marked-Up Claims:

1. (Amended) An optical [head apparatus] system comprising:
  - a light source;
  - an object lens for focusing emitted light from the light source onto an optical recording medium;
  - first optical separating means which is provided between the light source and the object lens and which separates an optical path of reflected light from the optical recording medium, from an optical path of the emitted light from the light source;
  - second optical separating means which separates the reflected light from the optical recording medium via the first optical separating means into a first group of light and a second group of light; and
  - an optical detector for receiving the first group of light and the second group of light;

wherein an optical [amount] signal strength of the first group of light [being] is larger than an optical [amount] signal strength of the second group of light, and

wherein the system is constituted such that a tracking error signal by a differential phase method, a tracking error signal by a push-pull method and a data signal recorded on the optical recording medium are detected from the first group of light while a focusing error signal is detected from the second group of light.

16. (New) An optical method comprising:  
focusing emitted light from a light source onto an optical recording medium;  
separating an optical path of reflected light from the optical recording medium, from an optical path of the emitted light from the light source;  
separating the reflected light from the optical recording medium via the first separating step into a first group of light and a second group of light; and  
receiving the first group of light and the second group of light;  
wherein an optical signal strength of the first group of light is larger than an optical signal strength of the second group of light, and  
wherein a tracking error signal by one of a differential phase process and a push-pull process and a data signal recorded on the optical recording medium are detected from the first group of light while a focusing error signal is detected from the second group of light.